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ABSTRACT

This study investigated the amount of time secondary school teachers spent working and the types of work activities, based on records and survey forms from 348 teachers in secondary schools in England and Wales. Findings include: (1) the weekly mean time spent on work was 54.4 hours; (2) teachers spent an average of 16.9 hours teaching, 12.9 hours in preparation, 18.1 hours in administration, 5.3 hours in inservice training, and 4.1 hours in other activities; (3) there was a positive relationship between salary and long hours of work; (4) there was a negative relationship between salary and time spent teaching, with more experienced and higher paid teachers spending more time on administration and in meetings; (5) 40 percent of teachers felt that their academic background was not well matched to their current teaching; and (6) there were no significant gender differences in the amount of time spent on work. Policy issues discussed include the use of teachers' time, match of subject expertise to teaching duties, gender and secondary teachers' work, national curriculum and assessment, and the "conscientiousness" factor and teacher motivation. Appendices provide copies of the Record of Teacher Time form and the secondary teacher questionnaire used and statistical data from the study. (JDD)

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THE UNIVERSITY OF WARWICK

THE WORKLOADS OF SECONDARY SCHOOL TEACHERS

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APPENDICES I - IV

1. THE SECONDARY SCHOOL STUDY

This is a report of an independent investigation into the amount of time spent working, and the activities on which time was spent, by 348 teachers in secondary schools. It was designed, conducted and reported under a mutually agreed pre-condition of academic autonomy - an explicit understanding that we would report what we found, not what the Association might wish us to find. The report is based on records kept by the teachers (7 consecutive days per teacher) of time spent on work. Seventy-seven of these records were made between the 18th November and the 16th December 1990, ie., toward the end of the Autumn term 1990. The remaining 271 were spread across the Spring term 1991. The records therefore cover about 40% of the school year and provide data on 2,436 days of teachers' work.

Background

In establishing this study the Association had one main purpose - it wished to obtain evidence about the amount of time being spent on work by secondary school teachers, following its sponsorship of a previous study of teachers in Key Stage 1. Teacher time does not exist in a vacuum insulated from educational policy, especially policy on the delivery of the curriculum. Therefore, in seeking evidence about teacher time, the research was deliberately designed to identify issues arising from current policy. Although it was widely claimed that teachers were having to spend considerably longer on their work than previously, following the implementation of a wide range of education initiatives, including changes to examinations, TVE, school/industry links, the national curriculum, and management changes following from the 1988 Education Reform Act, there was little hard evidence. The last major study of English secondary schoolteachers' work, Hilsum and Strong's **The Secondary Teacher's Day**, had been published in 1978 and was based on data collected in 1974, long before the above changes were introduced. Two surveys in 1990 and 1991 by the NAS/UWT, based on 382 and 206 secondary teachers respectively, used a less detailed method of recording time, covering 24-hour periods for a week per teacher.

It enables comparison with the present findings in broad brush terms (for example, in time spent working overall) though not in more specific issues (such as differences between teachers with different responsibilities). In addition, there has recently been a sampling of teacher time in Humberside by Lowe and its figures are available to us. As far as we know there is no other source of baseline data about the use of secondary teachers' time.

Teacher Time : Visible, Invisible and Distributed

There are at least three aspects of teacher time. First, there is the time spent on work with children and parents that everyone can see, for example, teaching, discussions at parents' meetings, etc. This might be called "visible time". Second, there is "invisible time" - time spent on work and work-related activities out of sight of the public, for example, on in-service courses or at home on preparation. For many of the more senior teachers in secondary schools a considerable amount of invisible time is spent on administration and meetings in school. However, the distinction between visible and invisible time is broadly, but not precisely, that between "directed" and "non-directed" time, which was built into teachers' conditions of work in 1987. One relevant feature is the dependency relationship of the latter on the former. If the amount or intensity of work in directed time (arising from innovation, for example) increases so, almost inevitably, does non-directed time since it is defined as "Such additional hours as may be needed to enable (teachers) to discharge effectively (their) professional duties". (School Teachers' Pay and Conditions Document, 1989, Para.36{1}{f}).

The third aspect of time is "time distribution". This refers to the way teachers' time is distributed across different work and work-related activities within the overall time. This has become especially important for analysing time during school, as teachers have attempted to take account of the expectation that their pupils should spend a "reasonable" amount of time on the core and foundation subjects at Key Stage 3 and the range of administration, preparation and marking that is associated with new forms of examinations, new course patterns such as modular courses, and new provision post-16.

2. THE INSTRUMENTS

The teachers provided data anonymously on two forms, the Record of Teacher Time (Appendix I), and a Time Survey Questionnaire (Appendix II).

The Record of Teacher Time

This was based on a time sheet for each of seven consecutive days. The time sheet had to be completed following guidance provided, using a trialled coding system. The coding system broke teachers' work into five broad categories, viz. TEACHING, PREPARATION, IN-SERVICE TRAINING, ADMINISTRATION and OTHER ACTIVITIES. All five of these were further broken down into 27 sub-categories, as given on the page overleaf, (3a).

Thus the coding system, in effect, defined what counted as work and work-related activities for the teachers.

The Time Survey Questionnaire

At the end of the seven days the teachers completed a questionnaire about their professional biographies (eg. age, length of teaching experience), current conditions of work (eg. amount of non-contact time), the match of their academic background to their teaching duties, and their opinions about the amount of time spent on work. The questionnaire, in its draft form, was subjected to critical comment by experienced secondary teachers and amended in the light of their comments before being adopted for use. Nevertheless, it is essentially a pilot questionnaire.

CODES FOR THE RECORD OF TEACHER TIME

1. TEACHING

Include activities where you are in direct contact with pupils/students helping them to learn. There are four codes:

TM **Teaching your main subject.**
TO **Teaching other subjects.**
TA **Assessment and/or recording for the National Curriculum carried out during teaching.**
TT **Assessment and testing in teaching time, excluding assessment for National Curriculum.**

The codes TM and TO should be followed by either 3 (= Key Stage 3, ie., Years 7, 8 & 9), or 4 (= Key Stage 4, ie., Years 10 & 11), or 6 (= 6th Form). In addition, write in the class size with a ring round it, eg., TM4 (21) or TM3.TA (21)

2. PREPARATION/MARKING

Include activities in which you prepare or mark pupils' work, but are not in direct contact with them. There are three codes:

PR **Preparing and planning for pupils' learning, writing lesson plans, forecasts, schemes of work, organising the classroom and resources in it, briefing technicians/assistants, parent helpers, etc.**
PM **Marking work, writing comments on it, recording results.**
PO **Organising or collecting resources, organising visits/trips.**

Where it is possible to do so, add 3, 4 or 6, as for the teaching codes above, to indicate the age level for which the preparation was being done. Where the preparation was general rather than focused on an age range, add 7, eg. PR3, PO6, PM4, PR7, etc.

3. IN-SERVICE TRAINING

Include formal and informal activities intended to help in your or others' professional development, such as training days, all courses (including those leading to a further qualification), conferences and workshops. There are five codes:

IN **Organised courses, conferences, etc., but not the 5 non-pupil ("Baker") days.**
IT **Travel to organised courses, conferences, etc., but not the 5 non-pupil ("Baker") days.**
ID **Non-pupil days (ie. "Baker" Days)**
IS **Meetings, both formal and informal, with colleagues, advisers, advisory teachers, etc.**
IR **Reading of professional magazines, journals, National Curriculum documentation, syllabuses/exam. regulations, etc.**

Where it is possible to do so, add 3 (= training for National Curriculum Key Stage 3). Otherwise add O, eg., IN3, ID3, INO, etc.

4. ADMINISTRATION

Include activities concerned with the routines of school work. There are twelve codes:

AA **Administration to help in the running of the department or the school, unless identified in other A codes, (include writing reports).**
AE **Administration in connection with external examinations/course work and their moderation.**
AC **Pastoral/Discipline/Counselling/Guidance activities with individual pupils/students.**
AP **Discussion/consultation with parents.**
AD **Mounting displays.**
AS **Supervising pupils before the school day begins, at break/lunch, end of school day, etc.**
AL **Liaison meetings/activities with teachers in other phases, other schools, etc.**
AW **Attending/participating in assembly/act of worship.**
AB **Lunch, coffee/tea breaks – free of work.**
AF **Lunch, coffee/tea breaks – which were not free of work.**
AN **Non-contact time – free of work.**
/// **Registration and collecting dinner money; and/or moving children from one location to another (eg. from class to hall, playground to class, school to swimming baths), tidying up, etc.** (The code for this is simply to fill diagonal lines in the time space, thus //////, since these are sometimes short time spaces).

5. OTHER ACTIVITIES

OG **Attendance at meetings of governing bodies.**
OS **Work with sports teams, drama productions, orchestras, clubs, and all educational visits etc., outside timetabled lessons.**
OA **Activities that you cannot easily allocate to one of the other codes, eg. filling in this record, dealing with lengthy interruptions, and other things.**

Please turn over to see two examples of part of a completed record.

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3. CHARACTERISTICS OF THE PARTICIPATING TEACHERS

There were 348 teachers participating in the study. This is a relatively small number given that there are some 177,417 full-time secondary teachers, including teachers in middle deemed secondary schools in England in 1990 (DES Statistics of Education, Schools, 1990). To these should be added some 12,458 teachers in Wales (CIPFA Education Statistics, 1988-89, Actuals). In addition, the teachers were a self-selected group, since they were all volunteers and members of AMMA. There is evidence (Table 3.2, Page 7) that holders of Incentive Allowance 'D' were over-represented and Standard Scale teachers under-represented in the group as a whole. Thus we cannot claim that the 348 are self-evidently representative of secondary teachers generally.

However, three characteristics of the participating teachers as a group suggest that they are not so untypical as to bring the findings into question. First, they are spread throughout 88 LEAs (and 19 independent schools) in all the regions classified by the DES for statistical purposes. There was no substantial concentration of the teachers in one or two authorities which might result in biased results arising from untypical staffing formulae. (In order to reduce bias arising from particular staffing levels in any one school, we decided to use no more than two teachers from any one school where we could tell that several teachers from the same school had volunteered).

Second, the number of working days of teachers, over 2400 days in total, is considerable by comparison with Hilsum and Strong's 1978 study, which involved 201 teachers in 74 secondary schools in Surrey in 1974; the 201 teachers were observed for one school day, and in addition completed a record of work done out of school on the same day, on one weekend, and on one day in the holidays. Hilsum and Strong's data therefore were derived from about 800 days, though based on detailed observation and recording in school.

Third, the teachers worked in approximately 330 schools, about 8% of the secondary schools in England and Wales, (CIPFA Education Statistics, 1990-91, Estimates).

Data from the Questionnaire

The questionnaire contained 29 items which provided evidence about the characteristics of the participating teachers. This evidence is presented under five main headings, viz. professional biography, conditions of work, perceptions of the match between qualifications and teaching duties, opinions of time spent on work, and opinions about the typicality of the 7 days work they had recorded.

3a) PROFESSIONAL BIOGRAPHIES

Sex: Of the 348 teachers, 151 were men, 187 women, and 10 did not complete the item. This provided us with a good basis for examining sex differences in a range of variables.

Age: The age distribution of the teachers was as follows:

Table 3.1

AGE	NO:	%
21-30	19	6
31-40	89	26
41-5	152	44
51-60	80	23
Over 60	4	1
Not recorded	4	1
TOTAL:	348	100

It can be seen that the majority, 70%, are between 31 and 50, with 24% over fifty, and a small number (6%) in the youngest category. The proportion falling into the middle categories is almost identical to

those in the same categories in our Key Stage 1 study, but proportionately there are fewer young teachers in this study, and somewhat more older teachers.

Experience: We thought it important to establish not merely the age of the teachers but also the length of their experience of teaching at secondary school level. It is worth noting that only 15% had less than ten years' experience, while nearly 43% had more than twenty years' experience. A small group of 18 teachers (5%) was in the first three years of their teaching.

In general, therefore, the teachers involved were mainly over thirty years of age and were experienced secondary school teachers. The findings relating to time spent on work cannot generally be attributed to youthfulness or lack of experience.

3b) WORKING CONDITIONS

Working conditions in this study include the salary status of teachers, the type and size of school, the sizes of the classes taught, amount of time working with other adults, amount of non-contact time, and the range of responsibilities held by teachers.

Salary status

The teachers were asked to say which level of salary they were on, including, if they had an incentive allowance, whether it was temporary or permanent. They were also asked to state whether they were on a fixed term contract or not. Table 3.2 shows the distribution of teachers by salary status:

Table 3.2

Salary Status	No:	%
Standard Scale	51	15
'A'	45	13
'B'	69	20
'C'	36	10
'D'	99	28
'E'	20	6
Deputy Head	26	8
Not recorded	2	<1
TOTAL:	348	100

By national comparisons, for example with the distributions indicated in the 1990 Pay and Conditions Third Report, this is a skewed distribution, with relatively few Standard Scale teachers (15% as against 40%), and considerably more 'D' Allowance holders than the national distribution (28% as against 14.7%). This skewed picture requires that conclusions about the overall patterning of time on work, and especially the different categories on which work is spent, should be drawn with caution. An explanation of the skew is that 53% of those answering the item on what they had an allowance for said that it was for administration, which tends to carry the larger allowances.

We have attempted to allow for this skew in two ways. First, we have analysed the workloads of teachers broken down by salary status, on Pages 25 to 28. This shows differences by salary status; when salary status is clustered into Standard Scale, 'A', 'B' and 'C' Allowances on the one hand, and Allowances 'D', 'E' and Deputy Head on the other; and by the 'extremes' of Standard Scale and Deputy Head. Secondly, it is possible to weight the different workloads in different salary statuses according to their expected distribution nationally. This is done in Appendix IV. The overall effect is marginal, however, because the amount of time on work is not significantly associated with salary status.

6% of those answering said that they had a temporary allowance, a proportion considerably smaller than was the case in the Key Stage 1 study, where 1 in 3 of the allowances was temporary. On the other hand, 27% of the secondary teachers were on a fixed term contract. Over 1 in 4 teachers on fixed-term contracts seems a high figure

and should be treated with caution. It may be that some teachers have confused fixed-term contracts with temporary allowances.

Type, age range and size of school

The teachers worked mainly in comprehensive schools (73%), with a tiny minority working in grant maintained or independent schools (7 and 19 teachers respectively). The remainder worked in selective systems, that is in grammar schools (9%) or secondary modern (2%) or in "Other", mostly 16+ colleges (8%), either 6th form colleges, FE colleges or other tertiary institutions.

Table 3.3 shows the distribution of teachers by the age range of the schools:

Table 3.3

Age Range	No:	%
9-13	2	0.6
12-16	21	6.0
16+	25	7.2
11-16	81	23.3
12-18	19	5.5
11-18	55	44.5
13-18	33	9.5
Other	12	3.4
TOTAL:	348	100.0

There was a wide range of school size. Nearly one in five of the schools was relatively small (below 600 pupils), and 1 in 7 was above 1,200 pupils. The national comparison, based on DES statistics for 1989, shows that of 4,035 secondary schools, some 1,493 (almost 1 in 3) had below 600 pupils and 313 (about 1 in 12) had more than 1,200 pupils. Thus, we had fewer small schools and more large schools than is the case nationally.

Non-contact time

We asked the teachers to record the non-contact time that they were officially allocated per week, irrespective of the extent to which they actually received it. The details are given in Table 3.4:

Table 3.4

Time: Minutes (p.w)	No:	%
None	6	2
31- 60	5	1
61- 90	1	<1
91-120	6	2
121-150	20	6
151-180	26	8
181-210	47	14
210+	230	66
Not recorded	7	2
TOTAL:	348	100

It is worth noting that the vast majority (80%) of teachers had more than three hours per week of non-contact time formally allocated to them, a figure that contrasts sharply with the non-contact time available to the Key Stage 1 teachers, who on average had 22 minutes per week. A second point is that the time categories we allocated in the questionnaire were not entirely appropriate to analyse the range of non-contact time available to teachers. We would need more divisions above 210 minutes in order to produce a reliable average non-contact time.

The majority of the teachers (68%) spent no time working alongside a teacher colleague, and very few (44 teachers only) spent time working with an assistant, such as a technician, in the class. These figures illustrate the typical isolation of secondary school teachers from other adults when teaching.

Responsibilities

We asked the teachers whether they were responsible for aspects of the work of the school other than teaching, and 97% said that they were. When asked to specify what the aspects were the 336 teachers who had responsibilities provided some 1,137 responses, an average of over three responsibilities each in addition, of course, to teaching. The nature of the responsibilities, for example running a department, pastoral care and deputy headship, was substantial. One of the interesting facts to emerge was the relatively small proportion (6%) of teachers with responsibility for the delivery of the national curriculum, given that it is a major new statutory responsibility. It may reflect a tendency in the schools to incorporate such responsibility into existing duties of heads of department rather than to allocate specific responsibility to an individual.

3c) MATCH OF ACADEMIC BACKGROUND TO TEACHING DUTIES

A number of items on the questionnaire allowed us to obtain objective and subjective measures of the extent to which the teachers' academic background was well matched to their teaching. They were asked to define major subjects as those which they had studied for at least two years in higher education, and were asked to name only two subjects at most. In the event, the 348 teachers named 481 subjects, with the core subjects of the national curriculum taking up more than half, (Mathematics 77; Science 140; English 43).

The teachers were asked how much time, to the nearest hour, they spent teaching the subject(s) they had named as their major subjects. Table 3.5 gives the distribution across the time categories:

Table 3.5

Time Spent	No:	%
5 hrs. or less	36	10
5+ - 10	28	8
10+ - 15	75	22
15+ - 20	139	40
Over 20	70	20
TOTAL:	348	100

These figures should be treated with caution since they need to be considered alongside the figure for the amount of time that the teachers spent on teaching overall, ie. some 16.9 hours per week on average. Nonetheless, it is an important factual matter in a time of shortage of subject skills that nearly 18% of teachers were teaching their major subjects for less than ten hours a week, and 40% were teaching them for less than 15 hours a week.

Some 17% of teachers had taken a substantial re-training course since their initial training, and this may help account for some of the apparent shortfall in teaching of their major subjects.

Teachers were asked how far they considered their academic background from initial training/degree was well matched to their current teaching. This was intended to elicit **subjective** perceptions of match to complement the objective data referred to above. The figures are in Table 3.6 below:

Table 3.6

Academic Background	No:	%
Well matched	61	18
Well matched to most	141	41
Well matched to only half	53	15
Well matched to only a small amount	87	25
Don't know	5	2
TOTAL:	348	100

It is a matter of some interest that 40% of the teachers thought that their academic background was well matched to no more than half or to only a small amount of the teaching that they were required to carry out. 25% perceived their backgrounds as well matched to only a small amount of their teaching. This is a different picture from that which was obtained from defining match objectively by reference to the major subject of initial training, Table 3.5, and it suggests a poorer match.

Teachers were asked which of the foundation subjects they spent some time each week teaching to pupils in Years 7-11. 299 of the teachers replied giving 386 responses overall. Presumably most of the non-respondents were teaching in post-16 settings. The figures overall are given in Table 3.7:

Table 3.7

Subject	No. of Responses	% Responses
Mathematics	79	21
English	44	11
Science	79	21
Technology	36	9
History	38	10
Geography	40	10
Mod.Languages	37	10
Music	7	2
Art	10	3
P.E.	16	4
TOTAL:	386	100

Technology was the least well matched to background. We had information about the major subjects and re-training of the teachers which showed that only 11 had Technology as the major subject. Yet 36 were teaching it, more than three times the number qualified to do so by their initial training. (None had re-trained in it).

In addition to asking teachers which foundation subjects they were teaching in Years 7-11, we also asked them for their subjective judgement about how well they considered their training had prepared them for such teaching. The following responses (Table 3.8) indicate the numbers of teachers judging their training to be adequate:

Table 3.8

Subject	No. of Responses	% Responses
Mathematics	71	22
English	38	12
Welsh	1	<1
Science	69	21
Technology	20	6
History	37	11
Geography	33	10
Mod.Languages	32	10
Music	6	2
Art	6	2
P.E.	11	3
TOTAL:	324	100

It can be seen that fewer subjects overall were named (324 as against 386), and the objective analysis about Technology above is supported in the subjective views of the teachers, with only 20 of the 36 teachers teaching the subject seeing themselves as well prepared by their training. The policy issues arising from these data are discussed in Section 6.

Key Stage Three : Teachers' Priorities for National Curriculum Implementation

205 of the teachers were regularly teaching at Key Stage 3 and, of those, nearly 60% saw lack of time as the most serious obstacle to implementing the national curriculum. If they had extra staffing, the purposes for which they would use it varied considerably, as the figures in Table 3.9 show:

Table 3.9

Purpose	No:	%
Assessment/recording	75	37
Smaller groups	49	24
Non-contact time	43	21
Work alongside colleagues	36	18
Other	6	<1
TOTAL:	205	100

This is a rather different picture of priorities from those shown to this item by Key Stage 1 teachers, nearly all of whom would use such staffing for assessment and smaller group teaching, and hardly any of whom would use it for non-contact time or working alongside colleagues.

3d) PERCEPTIONS OF WHAT CONSTITUTES REASONABLE NON-DIRECTED TIME

A major factor at Key Stage 1 was the teachers' perception of what was a reasonable expectation for non-directed time. The figures for the secondary teachers are given in Table 3.10:

Table 3.10

Hours (p.w)	No:	%
None	10	3
1 - 5	53	15
6 - 10	155	45
11 - 15	89	26
16 - 20	25	7
21 - 25	8	2
26 - 30	1	<1
Not recorded	7	2
TOTAL:	348	100

The main differences between these and the Key Stage 1 teachers are that proportionately more secondary teachers (25% as against 15%) thought more than 11 - 15 hours would be reasonable, and that 10 secondary teachers (as compared to no KS1 teachers) thought that no non-directed time was reasonable. Using the mid-points in each hours category in Table 3.10, the mean time that the teachers thought was reasonable for them to work in non-directed time was 9.3 hours per week. This would give, when added to directed time (33 hours), a working week of about 42 hours, some 12 hours below the actual working week of these teachers, as recorded in the ROTT sheets, (see 4a below).

3e) TEACHER PERCEPTIONS OF THE TYPICALITY OF THE TIME SPENT

We were able to obtain teachers' perceptions about how typical they thought the seven days they had recorded were of their work generally. Three-quarters considered that the time they spent on work in the current term had increased since the same term last year; only 1% saw their time as having been reduced. If true, this suggests that current attempts by Ministers to reduce the increasing workload of teachers are not perceived as effective or convincing.

81% of the teachers thought that the seven days they had recorded were rather similar to other weeks in the same term, while 15% thought that in other weeks they would be spending more time on work.

On In-service the picture, as might be expected, was more varied, with 46% considering that they would spend similar amounts of time, 10% that they would spend considerably less time, and 32% that they would spend considerably more time on In-service in the current term.

There is a consistent pattern here of apparently reliable reporting. The analysis of the time data shows that teachers who reported that they would spend less time in other weeks on all aspects of In-service Training were actually spending significantly more time on such aspects in the week for which they kept records, and those who reported that they would work longer hours in other weeks of the term recorded significantly shorter hours than other teachers.

4. FINDINGS FROM THE RECORDS OF TEACHER TIME

4a) TIME ON WORK OVERALL

We were able to compute the mean time that the 348 teachers spent on work and work-related activities overall, per day, during the seven-day period. This time includes time spent on school premises during the school day and time spent on work in the evenings and at weekends. The means are as in Table 4.1:

Table 4.1

Mean Time on work at school	5.7 hours
Mean Time on work away from school	2.1 hours
Total mean time spent on work	7.8 hours

Thus the weekly mean time recorded as spent on work was 54.4 hours. As records which were unclear were scored conservatively, this may under-estimate the time actually spent.

This figure is a little higher than the mean reported by the NAS/UWT 1990 survey which found 51.21 hours and the 1991 survey which found 52.75 as the weekly mean. It is in line with Lowe's 1991 study which gave 55 hours. In general, the overall picture of time on work that we report fits well with the recent studies, given differing methodologies and instruments for measurement. All the recent studies, including ours, are reporting dramatically longer hours than the standard work by Hilsum and Strong (1978), which reported an average of 46.75 hours per week.

The "Conscientiousness" Factor.

The strongest predictor of the total time spent on work was the amount of time that teachers considered it was reasonable for them to be expected to spend on non-directed time - what we called the "conscientiousness" factor. The statistical relationship here was positive and very strong ($p<.001$). It is of considerable interest that it seems to be operating as strongly amongst

secondary teachers as with the Key Stage 1 teachers studied by us.

The mean figure for total time on work disguises considerable variation, as might be expected. The range was between 294 minutes per day and 790 minutes per day. This is a range of between 34.3 and 92.17 hours per week - a greater disparity than among KS.1 teachers. We do not know if these extremes represent the hours worked in other weeks by the teachers concerned

There was no significant difference in hours worked by men and women, whether on school premises or off them, at weekends or during weekdays.

4b) BREAKDOWN INTO DIFFERENT ACTIVITIES

Table 4.2 gives the weekly figures for the main categories of time. The total of these times, not calculated here, is greater than in Table 4.1 since for some of the time the teachers were engaged in more than one activity at once:

Table 4.2

Teaching	16.9 hours
Preparation	12.9 hours
Administration	18.1 hours
In-service	5.3 hours
Other Activities	4.1 hours

The most striking finding here is that Teaching, in the sense of giving instruction in subjects during lessons, constituted less than one third of the teachers' working time, being just over 30% of all the work that teachers carried out. If we add to the figure for Teaching the time spent daily on registration, supervision and assembly, some 30 minutes in all, the proportion of time spent on teaching pupils in this broader sense rises to just over 37%. This low proportion of time on Teaching is, to a significant extent, explained by the relatively high amounts of time spent on Administration and on Preparation. Even on the broader definition, almost two-thirds of our teachers' time was taken up with activities other than teaching pupils. This contrasts with the picture from the NAS/UWT survey (1991) where 41.4% of time was spent on teaching.

We think that the most likely explanation, in addition to our different methodology, for the (relatively small) differences between our figures and those of the NAS/UWT is that our sample is different, especially in respect of the proportion of teachers who were on deputy headships or on 'D' and 'E' allowances with major administrative responsibilities, (145 out of the 348 fell into these categories), though the NAS/UWT data are presented in a way that does not permit direct comparison on salary status. As can be seen from Table 4.3 below, the higher the salary status, the less the teaching.

4c) BREAKDOWN WITHIN CATEGORIES

(i) TEACHING

The factor most closely related to the amount of teaching done per day is the salary status of the teacher (which is itself closely related to experience and age). Table 4.3 shows the reducing amounts of teaching carried out according to the level of the salary. The statistical relationship is highly significant (linear trend $p<.001$):

Table 4.3

Salary Status	Mean Minutes Teaching per Weekday
Standard Scale	220
A	219
B	215
C	218
D	196
E	180
Dep.Head	105
Mean Total	201

Although the trend is linear there is a threshold or break point between Incentive Allowances 'C' and 'D'. For all practical purposes there was little difference in the amounts of teaching carried out by teachers on Standard Scale, or 'A', 'B' and 'C' allowances; beyond

that level the high allowances are associated with lower teaching loads.

We also found, as might be expected, that the higher the salary status the less teaching was done at Key Stage 3 (linear trend $p<.001$). At Key Stage 4 the same effect was observable but the statistical relationship was weaker (linear trend $p<.05$). There was a relationship between salary status and 6th form teaching, with teachers on 'D' and 'E' allowances (though not deputy heads) doing more 6th form teaching in absolute terms. Given that 'D' and 'E' allowance holders did less teaching anyway, the proportion of their teaching carried out with 6th formers was relatively very great. 31% of 'D' and 'E' holders' teaching was to 6th form groups.

Main subject teaching

The teachers spent by far the most time teaching their main subject, some 14 hours per week out of the 16.9 hours weekly total. Teachers in small schools spent more time than others teaching subjects other than their main subject, ($p<.001$), which is to be expected and suggests that our data in this respect are reliable. All teachers spent on average 2.45 hours per week teaching subjects other than their main subject. The remaining time on teaching was taken up with Testing (10 minutes per day) and National Curriculum assessment (3 minutes per day). These latter two activities could be combined with the former two, or be discrete. The amount of time on teacher assessment for National Curriculum carried out whilst teaching was miniscule, about 1½ minutes a day on average for those teaching at Key Stage 3.

Class Size and Key Stage

We were able to analyse the size of teaching groups according to the Key Stage of the teaching. For this purpose we divided the 11-18 age range into three Key Stages, viz. KS.3 (Years 7-9), KS.4 (Years 10-11) and the post-statutory age range, which we called 6th Form. Table 4.4 shows the mean size of actual teaching groups by the three stages:

Table 4.4

Key Stage	Mean group size
KS3	22
KS4	18
6th	11
All	18

These means, although they do not allow direct comparison, are in line with the national picture provided in 1990 DES statistics and suggest that, even though the sample of teachers is skewed, the sample of lessons is representative in terms of size of teaching group.

We were also able to compute a measure of "teaching output" by Key Stage. Output was defined in the limited sense of the number of pupils taught per teacher, multiplied by the amount of time they were taught, at each Key Stage. We were not in any sense measuring the quality of instruction, which might improve as the size of teaching group reduces. Output, in our limited sense, reduces as the age of the pupils increases. This is shown in Table 4.5:

Table 4.5

Key Stage	Pupil/mins. taught per day
KS3	1,956
KS4	1,586
6th	883

Salary status and class size

We were also able to analyse the relationship between salary status and the size of class taught. Again there was a strong positive statistical relationship, with teachers higher up the salary status categories teaching smaller groups (linear trend $p<.001$). This finding should be read alongside that reported on Page 19, that 6th form teaching (which has small groups) was significantly related to salary status.

Fixed term contracts and amount of teaching

We found that the 95 teachers on fixed-term contracts taught for significantly longer ($p.<.01$) than other teachers. The explanation for this does not derive from the salary status of those on fixed-term contracts, although there were more fixed-term contracts on Standard Scale and fewer on Allowance 'D' and deputy headships. There were significantly more women than men recording themselves as on fixed-term contracts ($p.<.01$). The caution we expressed on Page 8 about the interpretation of "fixed-term contracts" needs to be borne in mind here.

(ii) PREPARATION

Preparation included three sub-categories, namely Planning/Preparing lessons; Marking and Recording results; and Organising resources and visits. Where possible teachers were asked to relate the Preparation to particular Key Stages. Details broken down by sub-category are given in Table 4.6, which shows mean time per week on Preparation. The total is less than the sum of the three sub-categories because some teachers did two kinds of Preparation in the same session:

Table 4.6

Planning/preparation	5.9 hours
Marking/recording	6.8 hours
Organising	1.1 hours
TOTAL PREPARATION	12.9 hours

Of the total time spent on Preparation, 46 minutes per day were spent on school premises, while 64 minutes per day (7.5 hours per week) were spent at home, presumably in non-directed time.

We were able to show the amounts of time spent on all Preparation at weekends and during weekdays. The mean time per day for each is given in Table 4.7:

Table 4.7

	Weekends	Weekdays
Planning/preparing	43 mins	53 mins
Marking/recording	57 mins	61 mins
Organising	6 mins	11 mins
TOTAL PREPARATION	1.6 hours	1.95 hours

Finally we were able to show the time spent on Preparation according to the Key Stage for which the Preparation was being done. The figures are given below in Table 4.8:

Table 4.8

Key Stage 3	32 mins
Key Stage 4	36 mins
6th Form	23 mins

It was possible to calculate the mean Preparation time per pupil for the Key Stages shown above by dividing the mean Preparation time by the size of teaching group. This gave mean Preparation time per pupil for KS.3, KS.4 and 6th form respectively as 1.5 minutes, 2.0 minutes and 2.1 minutes per pupil. In terms of Preparation per pupil KS.3 is the most economical, KS.4 the next, and 6th form the least economical. If we link these data and those in Table 4.8 with the indices of class size and teaching output produced above, (Tables 4.4 and 4.5), we can see that not only does teaching at 6th form level produce less "output" but it also appears to involve more time per pupil on marking and preparing lessons.

iii) ADMINISTRATION

The teachers spent more time on Administration than any other category of activity. The broad category was broken down into 12 sub-categories, fuller details of which are given on Page 3a. Shorthand terms are used in Table 4.9, which gives means in minutes per day over 7 days:

Table 4.9

	Mins. per day
Department/School administration	49
Examination administration	14
Pastoral/discipline	13
Parental consultation	10
Displays	02
Supervision	07
Liaison	06
Assembly	05
Breaks (free of work)	21
Breaks (not free of work)	20
Non-Contact time (free of work)	03
Registration/dinner money/transition	10
TOTAL ADMINISTRATION	155

One general point that has emerged from the detailed analysis is that nearly all this administrative time was spent during the weekdays, not at the weekends. This is understandable, of course, in respect of the sub-categories such as Assembly, Breaks or Pastoral, which, by definition, have to occur on the school premises. But it was equally true for school/departmental administration and examination administration, which account for 63 minutes a day and do not necessarily need to be done at school. We assume that the explanation is that for these two major responsibilities teachers perceive themselves as having been given time free of teaching in the school day and thus see it as part of their school day "directed time". In addition significant parts of school administration, for example organising cover, by their nature force themselves into the weekday.

A second point is that the teachers did not generally use non-contact time as "free" or "rest" periods. The majority of them had over three hours per week non-contact time officially allocated to them, but recorded only 21 minutes per week of that time in which they did no work.

Thirdly, the combined figure for breaks seems puzzling. It is equivalent to 56 minutes per weekday, and since it combines both breaks free of work and breaks in which school work was done, the figure, which includes morning coffee break and lunch time, should be more like 75 minutes per day. One explanation for this may be that teachers with heavy administrative reponsibilities actually allocate themselves less time in breaks than the

"official" school break times, or have recorded them as the category of the work done in break. Deputy heads, for example, had significantly less time in breaks free of work than other teachers ($p<.05$). Deputies recorded only 15 minutes per day in breaks free of work and only 46 minutes per day on breaks, whether free of work or not. Also, some schools may have reduced the lunchtime break below the "normal" hour.

(iv) IN-SERVICE

The teachers spent 46 minutes per day on all In-service as defined by the coding system. There were five sub-categories, viz. Organised conferences/courses; Travel to courses; non-pupil days; Meetings, both formal and informal, with colleagues; and Reading of professional journals, national curriculum documents, etc. Where it was possible to do so, teachers were asked to identify In-service activity designed to train them for Key Stage 3. The time, in minutes per day, spent on the five sub-categories is given in Table 4.10:

Table 4.10

	Mins. per day
Courses/conferences	10
Travel	06
Non-pupil days	02
Meetings	22
Reading	8

Hardly any of the In-service, about 2 minutes per day on average, was directed at Key Stage 3. A second point is that Meetings, including staff meetings, took up almost half of all In-service time. Thirdly, the amount of time spent on In-service activities was divided equally between time on school premises and time away from them (23 minutes each). Senior staff, especially deputy heads and 'E' postholders spent significantly more time than others in meetings in school ($p<.001$).

(v) OTHER ACTIVITIES

Teachers were asked to record under the heading of Other Activities the time spent on three sub-categories, viz.

Governing Bodies' Meetings, Sports, Clubs, Orchestras, Drama and Field Trips, and other activities that they could not fit into the coding system. The time distribution in minutes per day is shown in Table 4.11:

Table 4.11

	Mins. per day
Governors	02
Sports etc.	12
Other	21
TOTAL	35

4d) THE PATTERNING OF WORKLOADS ACCORDING TO THE SALARY STATUS OF TEACHERS

We are now in a position to summarise the evidence about differences in workloads of the teachers according to salary status.

The general picture is provided in Table 4.12, which shows mean hours per week on the five main categories of work, broken down by salary status:

Table 4.12

ACTIVITY:	SALARY STATUS							
	Stand:	A	B	C	D	E	DH	All
Teaching:	18.4	18.3	17.9	18.2	16.3	15.0	8.8	16.9
Preparation/ Marking:	13.1	14.6	13.2	11.9	13.8	12.6	6.5	12.9
In-Service Training:	3.7	4.0	4.9	5.5	5.8	6.9	9.5	5.3
Administration:	15.1	14.7	15.8	19.0	18.7	18.3	31.4	18.1
Other Activities:	4.0	4.6	2.8	5.3	4.1	3.9	4.5	4.1
TOTAL TIME:	52.3	53.2	52.2	57.6	55.1	54.8	58.0	54.4

Three Pen Portraits

We have decided to present further details on the patterning of work by providing "time distributions" for three groups of teachers, viz:

All Teachers	(n = 348)
Deputy Heads	(n = 21)
Standard Scale Teachers	(n = 51)

These are provided in Figures 1 and 2 (pp.27a and 27b) as bar charts.

Thus, we provide composite patternings of work for all the teachers in the study, and what might be regarded as the "extremes" on either side of this average picture, namely those whose major responsibilities are managerial/ administrative (the deputy heads) and those whose major responsibilities are instructional (Standard Scale teachers).

All teachers

Figure 1 shows the work pattern for all 348 teachers, expressed as means. We can see that just under 17 hours is spent on TEACHING (31% of total time), 14 of which are spent teaching the main subject. Of particular interest is the minute proportion of teaching time spent on National Curriculum assessment at KS.3 (0.02%). All PREPARATION/MARKING takes up nearly 13 hours a week, a ratio of Preparation/Marking to Teaching of 0.76:1. Of the 5.3 hours per week spent on IN-SERVICE TRAINING, almost half (2.6 hours) is spent in staff meetings and other meetings.

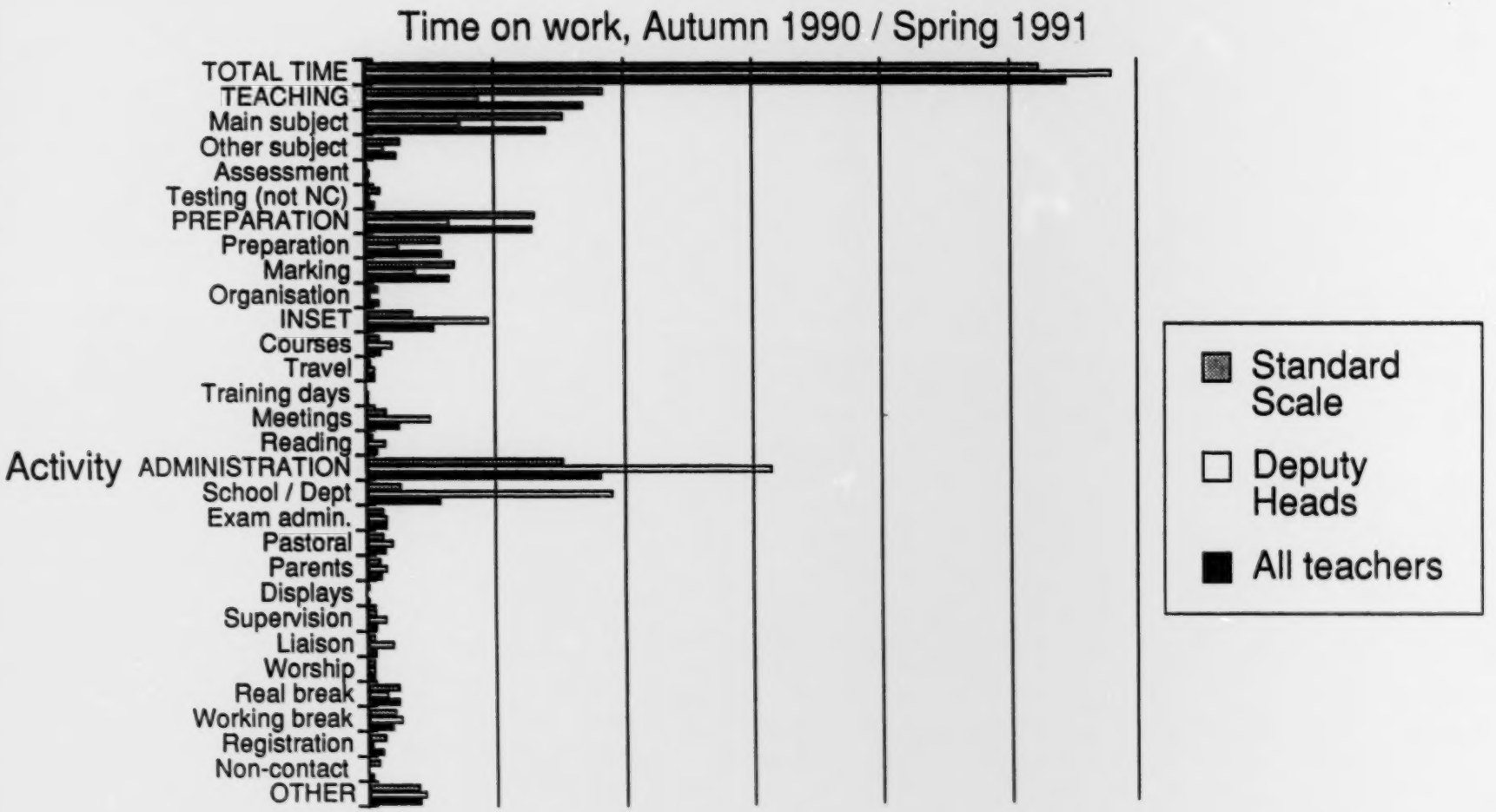
ADMINISTRATION is the longest amount of time, but it is a set of sub-categories which are not necessarily inter-related. Our composite secondary school teacher spends over 7 hours a week on school and examination administration and 1½ hours per week on pastoral care, often counselling or disciplining

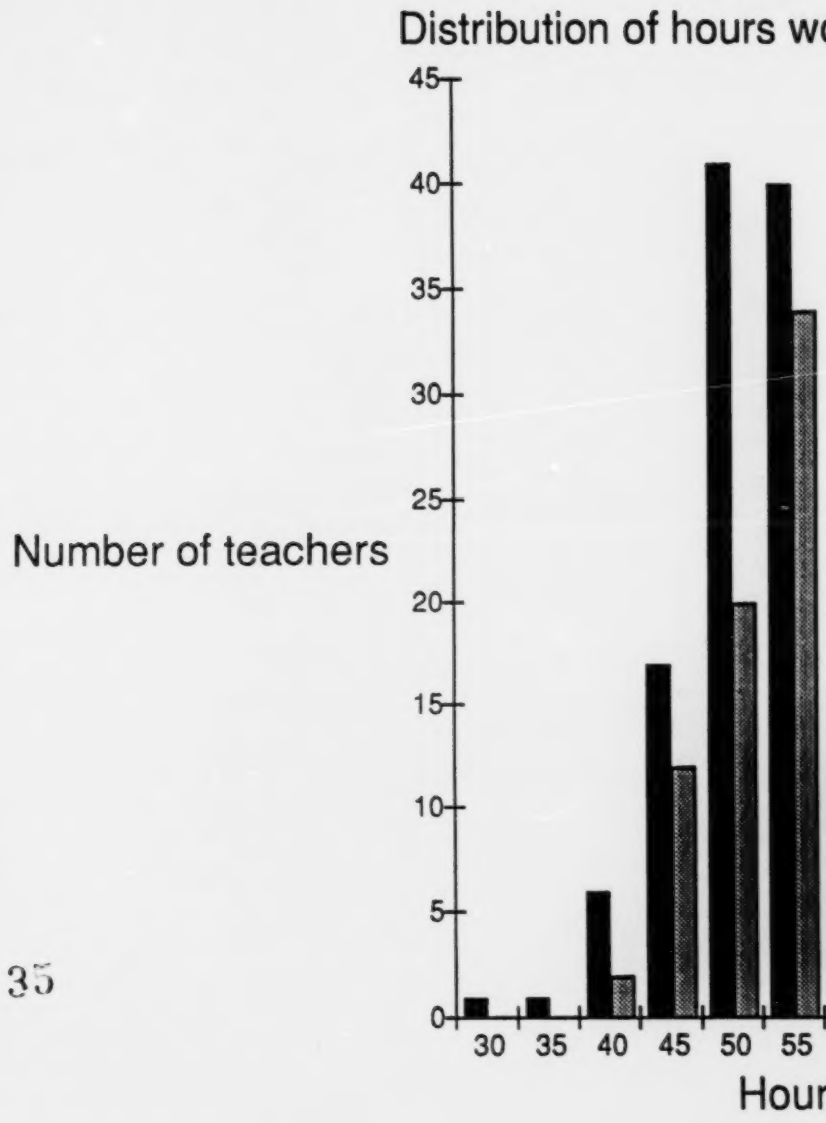
individual pupils. 4½ hours a week is spent in breaks/lunchtimes, of which 2½ hours are 'real' breaks, that is free of work. Although the teachers nearly all had over 3 hours a week of non-contact time, only about 21 minutes of that time was recorded as free of work. Registration took up just over 70 minutes a week, about ¼ hour per day. OTHER ACTIVITIES comprised mainly time spent with orchestras, sports teams, school clubs, etc., (12 hours per week), and 2½ hours on activities that the teacher could not fit into the coding system, eg. moving between sites on a split-site school, filling in the record of time, time spent on union activities, and other things.

Deputy Heads

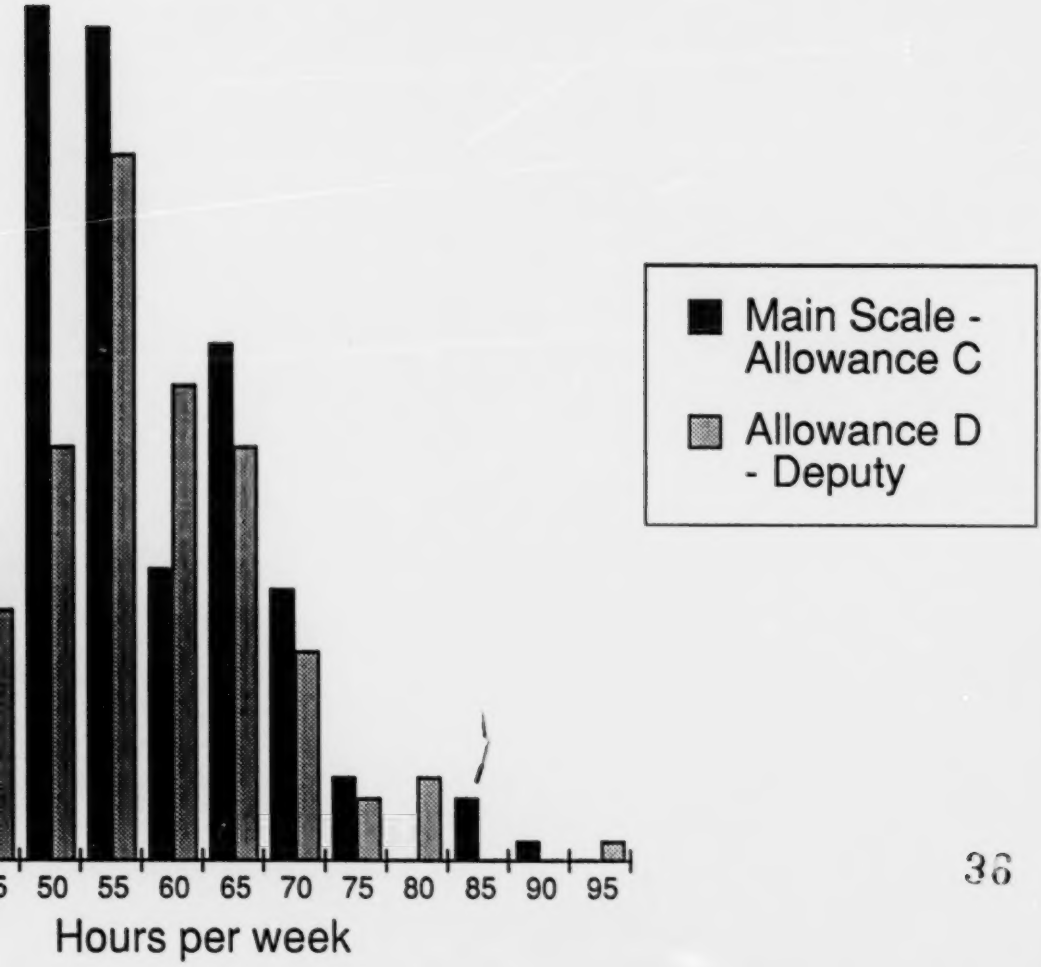
Figure 1 shows a very different patterning of work for deputy heads, who spent the longest hours on work overall (58 hours a week). A small proportion of this overall time, 15⅝, is spent on TEACHING, equivalent to only one and three quarter hours per day. Deputy heads spent 6½ hours a week on PREPARATION/MARKING, giving a ratio of Preparation/Marking to Teaching of 0.7:1, only slightly less than the average. In other words, deputy heads do not appear to prepare less for the limited teaching they do. IN-SERVICE TRAINING accounts for 9½ hours per week, 5 hours of which were spent in meetings of various kinds, including staff meetings. Deputies spend more time also on In-service courses, over 2 hours per week, and on reading documents (1½ hours per week) than average.

ADMINISTRATION takes up nearly 31½ hours per week, of which the longest time (19 hours) is given over to school administration. If we combine the four codes (AA, AE, AP and AL), deputies were spending 24.3 hours per week on them. To this we could add the 5 hours on meetings (IS). Thus, deputies were spending at least 29 hours per week on school administration, as conventionally understood. An important question which could not be examined in this study is how much of the 29 hours was spent on activities needing deputies' high levels of managerial expertise/experience, and how much was on relatively low-level routine administrative or clerical tasks.


Time on work, Autumn 1990 / Spring 1991
TOTAL TIME
TEACHING
Main subject
Other subject
Assessment
Testing (not NC)
PREPARATION
Preparation
Marking
Organisation
INSET
Courses
Travel
Training days
Meetings
Reading
ADMINISTRATION
School / Dept
Exam admin.
Pastoral
Parents
Displays
Supervision
Liaison
Worship
Real break
Working break
Registration
Non-contact
OTHER
Activity
Standard Scale
Deputy Heads
All teachers


Distribution of hours wo
Number of teachers
45
40
35
30
25
20
15
10
5
0
30
35
40
45
50
55
Hour

hours worked by individual teachers



27b

Standard Scale Teachers

Figure 1 shows the pattern of teachers on the Standard National Scale. They work for slightly less time than the average. TEACHING takes up 18.4 hours, equivalent to 35% of their overall time. PREPARATION/MARKING occupies just over 13 hours a week, a ratio of Preparation/Marking to Teaching of 0.71:1, slightly lower than average. In IN-SERVICE TRAINING these teachers spend less time in meetings and reading documents than other teachers.

ADMINISTRATION occupies only 15.2 hours per week, very little of which, some 2.7 hours, is spent on school administration. These teachers spend more non-contact time not working than average, but otherwise other aspects of administration are as might be expected. Also as might be expected, OTHER ACTIVITIES are distinguished by their entire absence of participation in governors' meetings.

Contact with Pupils

A final comparison is a simple analysis of the time spent with pupils, as against time spent away from them. For each of the three groupings the figures are as given in Table 4.13. Time spent with pupils is calculated by adding time in all Teaching codes and AC, AS, AW and AR.

Table 4.13 - Hours per week in contact with pupils

	Standard Scale	Deputy Heads	All
Time spent with pupils	22.4	13.4	21.0
Time spent with pupils as a proportion of total time	43%	23%	39%

5. SOME FURTHER FINDINGS

5a) MANAGERS AND TEACHERS

A major finding coming out of the statistics is not a surprising one, but is very clear. There is no such thing as a typical teacher's workload in secondary schools. There are at least two, very different, kinds of workload, defined by the balance of activities across work overall. We call these the "Managers" and the "Teachers".

"Managers" are on the top three salary status levels, are older, usually male, more experienced, do relatively less teaching, mostly to smaller groups, and spend much of their working time in Administration and Meetings. "Teachers" are younger, more often female, less experienced, on the lower of the salary status levels, and some are on fixed term contracts. They spend relatively large amounts of time on Teaching, which is to larger groups, and engage in more Preparation and Marking.

The two groups are **not** clearly distinguished by the amount of time overall that they spend on work, (although deputy heads work the longest hours of all teachers), but by the **balance** of their activities within the overall time. This differentiation by balance of workload may reflect a split in the organisation and culture of the school as a workplace. Some teachers, promoted to Incentive 'D' and above, carry out much of their work as administrators for the school, whilst others carry proportionately more of the teaching in the school, especially if account is taken of teaching output as we have defined it. We have been able to demonstrate the existence of such a split by the emergence of the "Managers" factor in the factor analysis in Appendix III, and through the multiple regression analysis.

The multiple regression analysis showed that salary status was the factor most clearly predicting the amount of time that a teacher spent on all Administration. The association was highly significant statistically ($p<.001$). There was even greater significance ($p<.001$) when the code AA alone (School Administration) was

examined in relation to salary status. Conversely, the multiple regression analysis showed that the amount of time spent teaching was most strongly predicted by the salary status of the teacher - the lower the status the more teaching ($p<.001$). In addition the best predictor of time spent in meetings on school premises is salary status ($p<.001$).

At this point we would summarise the finding as follows:

i) First, there is a strong ($p<.001$) positive linear trend relating salary scale and long hours on school and examination administration. Our data do not allow us to distinguish clearly between managerial and administrative activities. 'D' and 'E' allowance holders and deputy heads average 1.8 hours per day on administration, while Standard Scale and 'A' and 'B' allowance holders average 46 minutes per day. At the extremes, deputy heads spend 20.6 hours per week on such administration, while Standard Scale teachers spend 4.0 hours per week.

ii) Second, there is a strong ($p<.001$) negative linear trend relating salary scale and time spent teaching. 'D' and 'E' allowance holders and deputy heads spend 13.8 hours a week teaching, while Standard Scale 'A', 'B' and 'C' allowance holders spend over 18 hours per week. Deputy heads (8.75 hours per week) spend less than half the time on teaching that is spent by Standard Scale teachers (18.4 hours). We take up the policy issues related to this split in our final section.

5b) SUBJECT MATCH

A second important finding concerns the match of teachers' academic background to their current teaching duties. We were able to generate both objective and subjective definitions of match. The objective definition came from the questionnaire, where teachers were asked what were their major subjects (= subjects studied in higher education for at least two years) and how much time they spent teaching these major subjects.

Subjective definition of match was obtained by asking the teachers how far they considered that their academic background was well matched to their current teaching; and, if they taught foundation subjects up to Year 11, how far they considered their academic background had prepared them for such teaching.

The following table summarises the data previously presented in Tables 4.5, 4.6, 4.7 and 4.8 above. Poor match is defined as:

Column (a) - less than 10 hours of all teaching

Column (b) - less than half of all teaching

Column (c) - not adequately prepared by academic background.

Table 4.14

Teachers	MATCH AS MEASURED:		
	a) Objectively (All Teaching)	b) Subjectively (All Teaching)	c) Subjectively (For Years 7-11)
% with poor match	18%	40%	Between 3%-44%

In respect of foundation subjects up to Year 11, Column (c) above indicates considerable variation according to the subject. The proportion of teachers who were teaching foundation subjects but did not feel adequately prepared by their academic background or by later re-training is as follows. The percentages are created from the differences identified in Tables 4.7 and 4.8 above, ie. numbers of teachers teaching a subject, and numbers reporting that they perceived themselves as adequately prepared:

Table 4.15

	Numbers teaching	Numbers reporting	% Poorly Matched
Technology	36	20	44%
Art	10	6	40%
P.E.	16	11	31%
Geography	40	33	18%
English	44	38	14%
Music	7	6	14%
Modern Languages	37	32	14%
Science	79	69	13%
Mathematics	79	71	10%
History	38	37	3%

Thus, we obtained a different measure of match according to whether we asked for objective or subjective definitions and it varied by subject in Years 7-11. The subjective definitions suggest greater mis-match than the former. This has implications for policy on identifying the degree of match in the teaching force, for the measurement of the extent of teacher shortages and for In-service needs in relation to the national curriculum, all of which we examine further in our final section.

5c) THE "CONSCIENTIOUSNESS" FACTOR

We asked the teachers to say what amount of time they thought it was reasonable for them to be expected to spend on work in non-directed time. This had been the critical variable associated with long hours on work in the Key Stage 1 study. We had referred to this as the "conscientiousness" factor partly to indicate teacher commitment and partly to imply that teachers could be "over-conscientious" - conscientious to a fault. With the secondary teachers this factor also was a critical one. There was a highly significant statistical relationship ($p<.001$) between "conscientiousness" and hours on work. The more hours teachers thought it reasonable for them to be expected to work in non-directed time the more time they actually spent. This was especially true of time on work off school premises. There was a statistically significant association between "conscientiousness" and long hours on Preparation and In-service combined.

Thus, despite very great differences in the nature, patterning and working contexts, the motivation of teachers to work long hours, whether secondary or primary, appears to be similarly significant. They are driven by their perception of the time it is reasonable for them to be expected to spend on work in their 'own' time.

5d) GENDER AND WORK

The first finding to emphasise here is that there was no significant difference in the amount of time on work overall by men and women teachers, on school premises or off, during weekdays or at weekends. Within overall time there was no difference between men and women in the time spent on Preparation or Teaching, or In-service.

However, there were three principal sex differences in the patterning of work.

First, women spent significantly less time than men on Administration overall ($p<.01$), and especially on School Administration ($p<.001$), but they spent more time on Pastoral aspects ($p<.05$).

Second, women taught Key Stage 3 pupils more ($p<.01$) and 6th formers less ($p<.05$) than men did.

Third, although there was no difference in time overall on In-service, we found that women spent more ($p<.05$) time on In-service at weekends. As we indicated in our interim report, this may be partly explained by the ability of women to meet In-service commitments more easily at weekends than in 'twilight' hours or in weekdays after school. This explanation is supported by the fact that women recorded more travel to In-Service courses at weekends.

Our conclusions here are complex since the interaction of gender and workplace is not straightfoward.

First, women do not "put in less time" than men. There is no evidence to support the idea that women, for reasons to do with demands on their time in the domestic setting, are able to commit themselves less to work than men. Second, and related to the first point, women teachers were paid less than men because fewer were on the higher incentive allowances. The differences in salary status were highly significant statistically, as Table 4.16 shows:

Table 4.16 - Salary Scale by Sex

Scale:	Men	Women	
Standard	14	36	
A	9	32	
B	25	42	
C	17	19	Chi square 29.8
D	61	37	
E	11	8	d.f.6
DH	13	12	
			p<.001
TOTAL:	150	186	
%:	44.6%	55.4%	

If the sexes were distributed randomly among the salary scales we would expect the numbers at each level to approximate to the 45/55 sex balance in the sample as a whole and to be roughly similar, with perhaps one or two women more in each level. The obvious source of difference is Standard Scale, 'A' and 'B', where there are many more women than would follow from random distribution, and 'D', where there are many fewer women.

Since they gave the same amount of time to work as men, women were 'better value for money' if their work were to be considered on a strictly cost-of-the-job basis. (This view is strengthened by the evidence that women teachers spent more time teaching the (larger) Key Stage 3 classes).

Third, we found significantly more women ($p<.001$) falling into the category 1-10 years of experience of secondary teaching. There were 52 teachers overall in this category, of whom 43 were women. The difference here was much greater than in other categories of length of experience.

The findings here are of some interest in respect of policies for equal opportunities. We had data on the salary status, age and length of teaching experience of the teachers, both men and women. As has been shown in Table 4.16, women were over-represented in the lower salary statuses and under-represented in the higher statuses, especially 'D' allowances. This gender difference held up when the age of teachers was taken into the analysis, but almost disappeared when, instead of age, the length of teaching experience was the basis for analysis. In effect the gender inequalities in salary status in the sample appear to be derived mainly from the consequences of the 'career break' of women teachers rather than from deliberate discrimination or from in-school obstacles to promotion for women.

5e) THE NATIONAL CURRICULUM AND ASSESSMENT

The data on the national curiculum and assessment need to be put into context. In the school year 1990-1991, when the research was conducted, only three of the ten core and foundation subjects were statutorily in place, and assessment arrangements were not known.

Overall, relatively little emphasis appeared to have been given to the national curriculum at Key Stage 3. Our evidence is that only 6% of the teachers saw themselves as having responsibility for the delivery of the national curriculum. Of the 205 teachers teaching regularly at Key Stage 3 only 37% would use extra staffing for assessment/recording. Very little time was devoted to In-service training for Key Stage 3 (about 2 minutes a day on average) and very small amounts of time (1½ minutes a day) to TGAT-style national curriculum assessment. As has been said, it is true that at the time the data were collected statutory end-of-Key-Stage assessment was not required. The orders for Mathematics and Science had been in place for little more than a year, and for English for over a term. However, a very big proportion of the teachers were teachers of the three core subjects (77 had Mathematics, 140 had Science and 43 had English as a main subject).

Direct comparison with the Key Stage 1 teachers in **1330 Days** is not technically possible, but where it is

reasonable to make a comparison, in the case of Teacher Assessment, delivery seems more limited at Key Stage 3. In 1330 Days Key Stage 1 teachers were studied in 1990, ie. the year before statutory assessment was implemented as a dummy run. This is the same timing as for Key Stage 3 in 1991, yet Key Stage 1 teachers were spending about 50 minutes a week on TA compared to the 1½ minutes spent in Key Stage 3.

6. POLICY ISSUES

Five policy issues arise from our findings, especially from those identified in Section 5 of this report. They are:

The Use of Teachers' Time
Match of Expertise to Teaching
Gender and Work
National Curriculum and Assessment
The 'Conscientiousness' Factor

i) The Use of Teachers' Time

We have shown that there were two broad categories of teachers, distinguished by the different structuring of their time. The "Managers" spent large amounts of time on School Administration and relatively little time teaching, whereas the "Teachers" spent little time on School Administration and relatively large amounts of time on teaching. It is possible to exaggerate this distinction, but the statistical analysis (see p.30) provides very high levels of significance between the use of time of teachers on Standard Scale, Allowance 'A', 'B' and 'C' on the one hand, and those on Allowance 'D', 'E' and deputy heads on the other.

Our data do not allow us to know the extent to which the activities coded as School Administration were managerial (ie. involving high-level skills) or administrative (requiring low-level skills). However, other research, eg. Torrington and Weightman's The Realities of School Management, suggests it is probable that substantial amounts of time per week were being spent by the highest paid teachers on relatively low level routine tasks, of a clerical nature. If so, responsibility for this situation is not attributable to the teachers themselves but is a policy issue for school management as a whole, especially for the head and the governing body. It is worth examining the current use of senior teachers' time to see if the provision of more support staff, (to whom delegation of routine administration could be made), would enable both their managerial and their teaching skills to be exploited more effectively.

An alternative view is that the occupational split between "Teachers" and "Managers" is inevitable, given the managerial complexity of contemporary secondary schools and the increasing delegation of managerial responsibility to individual schools. On this view, the time of a few of the most highly-paid staff should be used almost entirely for management, policy-making and implementation, supported by more administrative staff. The patterning of the time of the rest of the staff should be more like that of the "Teachers" in this study, with relatively large amounts of time on Teaching. This would formalise the split we have identified in the occupational culture of the schools, though it is likely to lead to more oppositional attitudes within schools between the Teachers and the Managers. It would move teachers' professional development and the management of schools towards the systems in some states in the U.S.A., where clear-cut careers in educational administration are seen as alternative, rather than complementary, to teaching. For such a development to be worth the potential risk to relationships in schools, it would be essential for senior staff to be freed from routine administrative activities so that their time could be used to good effect in management, strategic planning and policy-making. They might also have to spend more time than they do currently on the maintenance of good relationships with the "Teachers".

However, the issue is not merely a matter for the local management of schools. There are national implications concerning the use of Incentive Allowances, the development of pay flexibilities and performance-related pay. It is technically possible, under the Teachers' Pay and Conditions Document, to award incentive allowances (especially the 'A' allowance) for "outstanding abilities as a classroom teacher". Currently, as our data show, reduction in teaching load may be construed as the main reward, consequence or spin-off of progression through the pay structure. This view is deeply embedded in the professional culture and would make any dramatic change, such as the award of the larger Incentive Allowances for continuing to teach a full load, difficult to implement. It is possible to see this professional culture as working in the interest of male teachers, since a change in the direction at which we are hinting above would benefit women teachers more.

There are two further difficulties. First, the recent evidence submitted to the School Teachers' Review Body by AMMA and NAHT, suggests that the distribution of Incentive Allowances and discretionary pay depends more on contextual factors such as school size (and therefore

their availability) than on the operation of rational principles according to the pre-specified criteria of the School Teachers' Pay and Conditions Document. Secondly, the "performance" by which performance-related pay might be awarded would differ depending on the status of the teachers. There would be difficulty in using a common set of performances by which, say, the "Teachers" and the "Managers" in our terms might be judged fairly in a competition for limited further allowances. It may be argued, understandably, that the schools are in a period of transition with regard to management. However, the pressures from the occupational culture outlined above, the problems of common performance indicators, a career progression favouring males, and the financial disincentives against awarding the highest Allowances for good teaching alone, all point in the same direction. Excellent performance in the classroom is likely to continue to be rewarded by progressive removal from it.

ii) Match of Subject Expertise to Teaching Duties

The issue of subject match is important within a school and we have shown that, generally, the teachers were well-matched to their teaching duties, if the main subject(s) of the teachers' initial training were taken as the basis for the analysis. We called this objective match. However, we showed that subjectively, viz. whether the teachers considered that their academic background was well-matched to current teaching, the match was less good. We showed variations by subject in this respect, with Technology being particularly poorly matched. We also found that teachers spent significantly more time on preparing lessons in their main subjects, which implies that poorly-matched lessons were less well planned and perhaps, therefore, less effectively taught. If so, the issue is not merely one of administrative difficulty but also one of teaching quality, though we have no direct evidence on this.

The main policy issue here, however, relates to the forecasting of teacher shortages, the implications for teacher supply and the identification of in-service training needs. Which of the measures of match is used determines how large the teacher shortage is perceived to be. Using the objective measure, as the DES does, has the administrative advantage of definition by clear criteria and the political advantage of showing the shortage at the lower limit, whilst disguising the teachers' view of the adequacy of their academic backgrounds. But the subjective measure may be much more

real to the teachers involved. It may also be an increasing issue as the foundation subjects come to be implemented in Key Stage 3 and Key Stage 4 since, in some subjects, eg. Science and English, teachers may have to teach elements which are new to them (eg. Biology teachers teaching Chemistry, English teachers teaching Awareness of Language) or were not part of their academic training.

iii) Gender and Secondary Teachers' Work

The data we have presented indicate that women teachers in the schools were at a disadvantage by comparison with their male colleagues. They taught the larger classes more, and the smaller classes less, than men; they clustered more on the lower, and less on the higher, salary levels than men; and more women than men were on fixed-term contracts. There is no self-evident explanation or justification for this state of affairs. The women worked as long hours as men and spent more time on In-service training at week-ends. Furthermore, there was no difference in "conscientiousness" between men and women. The women, therefore, represented better value for money (from an employer's perspective) or an exploited group of workers (from the perspective of equal opportunities).

We have shown (p.35) that when length of experience was controlled, the sex differences in salary scale were substantially reduced, and this seems to imply that a main source of discrimination against the women teachers was not within the school but outside it, arising from the "career break" experienced by women. If true, this would not mean that equal opportunity policies within schools should be regarded as irrelevant, but that the major source of inequality cannot easily or fully be confronted by them. Wider social policies, especially those concerned with child-care provision, would need to be implemented for those women teachers who wish to avoid career breaks, if the inequalities we found are to be removed.

Nevertheless, even without such wider policies, governing bodies might wish to avoid the worst aspects of gender disadvantage by adopting deliberate in-school policies.

These could include the monitoring of the use of fixed-term contracts in order to reduce the number of women wishing for permanent contracts being awarded fixed-term ones; and the recognition of the career break as a professional advantage rather than a disadvantage, for example, by fully counting 'years of experience' related to children since training, whether or not carried out in school.

iv) National Curriculum and Assessment

We found that the national curriculum and assessment were given relatively little attention at Key Stage 3. Almost certainly this is because, at the time the research was being conducted, Mathematics and Science had been in statutory orders for just over a year, and English for a term. Arrangements for the end-of-Key Stage assessment were not known. Nonetheless, and allowing for the timing, there was relative neglect of the national curriculum, especially in respect of TGAT-style Teacher Assessment for formative purposes in Years 7 and 8. Also, there was little In-service training targeted on Key Stage 3.

This has policy implications for In-service training programmes in 1991-1992. Some GEST funding has been earmarked for assessment at Key Stage 3. The assessment arrangements for the 1992 pilot SATs at the end of the Key Stage are now known to require single sitting, fixed-time tests of 3 hours duration, in June 1992 for Mathematics and Science. The tests will cover all attainment targets except the two concerned with Exploration of Science and Application of Mathematics. Thus, there will be little direct pressure on those teaching Key Stage 3 pupils to give substantial attention to the formative purposes of Teacher Assessment across the Key Stage, since the SAT scores will normally over-rule teacher assessment. In-service training in 1991-1992, whilst not neglecting the administration of the pilot SATs, ought to include training in the educational value of, and professional development inherent in, the formative functions of classroom-based teacher assessment. If this does not happen, the main improvement in assessment techniques promised by the TGAT Report will be lost.

v) The "Conscientiousness" Factor and Teacher Motivation

It needs to be said that long hours spent on work are not necessarily indicators of professional commitment or teaching quality. They may be evidence of inefficient preparation, wasted time in meetings and other things. Having said that, we reiterate that the best predictor of the amount of time that the teachers spent on work was what we called "conscientiousness" - the answer to an item on the questionnaire asking them:

> "As a general rule, and excluding holidays, how many hours a week do you think it is reasonable for you to be expected to spend in non-directed time (ie. mainly planning, record-keeping, report writing, organising resources, keeping up-to-date and all INSET)?"

The more time they thought was reasonable for them to be expected to spend on work in their "own" time, the more time the teachers actually spent. (We have reported similar findings with infant teachers in **1330 Days** and **Workloads, Achievement and Stress**). Except for deputy heads, the amount of time spent on work was not related to salary level. This suggests that secondary teachers are motivated more by personal qualities, such as their sense of obligation to pupils, than by positional or contractual factors such as salary levels. Teaching is not yet a contract-led profession, and these teachers were working for much longer than both the requirements of directed time, and the hours they considered reasonable.

The following calculation is based on an extrapolation of the figures in this report on to an annual basis of 39 weeks, and 1 week of non-pupil days. It assumes, probably wrongly, that none of the teachers does any work at all in the vacation periods:

		Hours
Hours per week (54.4 x 39)	=	2,122
1 week of non-pupil days (5 x 6 hrs)	=	30
Annual hours on work, excluding work in vacations	=	2,152

A further calculation is given below. This also discounts any work done in vacations and assumes an entitlement to a minimum of six weeks' annual leave. On this basis, the teachers were working the equivalent of 47 hours a week across the year:

Weekly hours on work at 46 weeks = 2,152 ÷ 46 = 47 hrs/wk

This average disguises great variation, as we have indicated on page 17. 125 of the teachers, 36% of the total, as can be seen from the chart on page 27b, were working over 60 hours a week. At the other extreme, some half a dozen teachers were spending less than 45 hours per week. (Since we only have data for one week we cannot tell if high or low figures are typical for the teachers concerned). The main motive for differences in hours on work was, as we said above, not salary but "conscientiousness".

This finding is highly problematic for policy makers, teacher unions and school management. On the one hand it reveals a vocation-driven professional attitude, with teachers showing extensive commitment of their own time in order to perform their school duties adequately and, on average, spending nearly 15 hours a week on work off school premises, mostly at home. On the other hand, it suggests that **within the limits of the overall salary levels**, policies on the use of Incentive Allowances, and for performance-related pay and discretionary allowances will not, of themselves, be highly motivating for teachers. Put at its lowest, such payments will not affect the <u>length</u> of time that teachers devote to work, though they may be seen as reward for extra responsibilities.

We do not see the evidence as leading to the conclusion that teachers' pay in general is irrelevant to morale, motivation and retention. The basic salary structure is important in a market-led Europe-wide economy where graduates may be in short supply over the coming decade. However, within that structure, the current use of Incentive Allowances and prospective use of performance-related pay appear unmotivating compared to the conscientiousness of teachers. This is because the professional culture into which secondary teachers are socialised by their training and the experience of work still stresses a collective professional accountability (ie. accountability to colleagues for pupil progression) rather than individual or competitive accountability (ie. accountability to individual career interests). It remains to be seen how far the new climate under LMS, performance indicators, teacher appraisal and performance-related pay will be able to induce a change in such a culture.

Such a change could be in the direction of reduced commitment and time on work, at least among those who, for whatever reason, see limited hope of pay increments. The process may be encouraged by repeated changes in nationally-imposed requirements, so their preparation time is wasted as schemes become obsolete.

We do not have interview data from these teachers and therefore cannot tell how they feel about these matters, but at both GCSE level, and at Key Stage 3, there have already been proposed, substantial changes to the policy operating as recently as Spring 1991, when our study was conducted. It is difficult to see teachers continuing to put great efforts into implementing changes that they think may be ephemeral.

University of Warwick — Department of Education

Policy Analysis Unit
Record of Teacher Time (ROTT)

APPENDIX I

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BEST COPY AVAILABLE

THE USE OF TEACHER TIME (SECONDARY)
TEACHER QUESTIONNAIRE

Please complete this questionnaire at the end of the one week recording period.

The questionnaire is in two sections — Section 1 asks for factual information, while Section 2 asks for your opinions or perceptions.

SECTION 1: Please tick the box to the the answer that applies to you or your work.

1.1 Sex: Male ☐ ✓ Female ☐ ✓

1.2 Age: 21–30 ☐ ✓ 31–40 ☐ ✓ 41–50 ☐ ✓ 51–60 ☐ ✓ Over 60 ☐ ✓

1.3 Including the current year as one full year, how many years experience of teaching secondary pupils have you had?

1 ☐ ✓ 2 ☐ ✓ 3 ☐ ✓ 4 ☐ ✓ 5 ☐ ✓ 6 ☐ ✓ 7 ☐ ✓ 8 ☐ ✓ 9 ☐ ✓ 10 ☐ ✓

11–15 ☐ ✓ 16–20 ☐ ✓ 21–25 ☐ ✓ 26–30 ☐ ✓ 31–35 ☐ ✓

Over 35 ☐ ✓

1.4 Salary Scale:

Main Scale	☐ ✓	Incentive Allowance A	☐ ✓
Incentive Allowance B	☐ ✓	Incentive Allowance C	☐ ✓
Incentive Allowance D	☐ ✓	Incentive Allowance E	☐ ✓
Deputy Headship	☐ ✓		

1.4a If you have an incentive allowance, is it mainly for:

Teaching a subject	☐ ✓	Pastoral care	☐ ✓
Administrating a department/faculty/section of the school			☐ ✓
Other	☐ ✓	Don't know/Can't answer?	☐ ✓

1.4b If you have an incentive allowance, is it:

Permanent ☐ ✓ Temporary ☐ ✓

1.5 Are you on a fixed term contract?

Yes ☐✓ No ☐✓

1.6 School type:

Maintained comprehensive ☐✓

Maintained grammar or other selective ☐✓

Maintained secondary modern or other non-selective ☐✓

City technology college ☐✓ Grant maintained school ☐✓

Independent ☐✓ Other ☐✓

1.6a Age Range:

9–13 ☐✓	12–16 ☐✓	16+ ☐✓
11–14 ☐✓	11–16 ☐✓	12–18 ☐✓
11–18 ☐✓	13–18 ☐✓	Other ☐✓

1.7 Number of pupils on roll in your school:

Below 300 ☐✓	301–400 ☐✓	401–500 ☐✓	501–600 ☐✓
601–700 ☐✓	701–800 ☐✓	801–900 ☐✓	901–1000 ☐✓
1001–1100 ☐✓	1101–1200 ☐✓	1201–1300 ☐✓	1301–1400 ☐✓
Above 1400 ☐✓			

1.8 How much non-contact time per week is officially allocated to you (whether or not you normally have it)?

None ☐✓	1–30 mins. ☐✓	31–60 mins. ☐✓
61–90 mins. ☐✓	91–120 mins. ☐✓	121–150 mins. ☐✓
151–180 mins. ☐✓	181–210 mins. ☐✓	Over 210 mins. ☐✓

1.9 How much time per week do you spend working alongside a colleague, so that there are two teachers to one class group?

None ☐✓	1–30 mins. ☐✓	31–60 mins. ☐✓
61–90 mins. ☐✓	91–120 mins. ☐✓	Over 120 mins. ☐✓

1.10 How much time per week do you spend working with at least one paid assistant such as a technician (i.e. not a teacher) in your class or group?

None ☐✓ 1–5 hrs. ☐✓ 6–10 hrs. ☐✓
11–15 hrs. ☐✓ 16–21 hrs. ☐✓ Over 21 hrs. ☐✓

1.11 Are you responsible for other aspects of the work of the school in addition to teaching, (whether or not you have an incentive allowance for it)?

Yes ☐✓ No ☐✓

1.11a If YES, please indicate the area(s) for which you have responsibility. Tick as many as apply to you:

- responsibility for a subject within a department/faculty ☐✓
- responsibility for a department/faculty ☐✓
- responsibility for pastoral aspects of a form or class group ☐✓
- responsibility for pastoral aspects of a year group or year groups ☐✓
- responsibility for a pastoral organisation such as a house ☐✓
- responsibility for liaison with other schools (e.g. feeder schools) ☐✓
- responsibility for community links/home-school relationships ☐✓
- responsibility for co-ordinating external examinations (e.g. GCSE, 'A' level, etc.) ☐✓
- responsibility for cross-curricular co-ordination ☐✓
- responsibility for co-ordinating the delivery of national curriculum/assessment ☐✓
- responsibility for TVEI, industry links or work experience ☐✓
- responsibility for in-service training ☐✓
- deputy headship ☐✓
- other ☐✓

1.12 Which of the following subjects did you study as a major subject (i.e., for at least two years) in your initial degree/certificate course at university/polytechnic/college? Where applicable, relate your degree to just one of the following subjects, (e.g. Mathematics and Statistics may be recorded as Mathematics). Do not record more than TWO at the most:

English	☐ ✓	Mathematics	☐ ✓	Computing	☐ ✓		
Physics	☐ ✓	Chemistry	☐ ✓	Biology	☐ ✓	Other Science	☐ ✓
History	☐ ✓	Geography	☐ ✓	Social Science	☐ ✓		
Art	☐ ✓	Music	☐ ✓			Physical Education	☐ ✓
		Modern Language(s)	☐ ✓	Technology	☐ ✓		
		R.E./Theology	☐ ✓	Other	☐ ✓		

1.13 How much time do you normally spend per week teaching the subject or subjects you have identified as your major subject(s) in 1.12 above?

5 hours or less	☐ ✓
More than 5 hours but less than 10 hours	☐ ✓
More than 10 hours but less than 15 hours	☐ ✓
More than 15 hours but less than 20 hours	☐ ✓
More than 20 hours	☐ ✓

1.14 Since finishing your initial degree or certificate, have you taken a course of substantial (i.e., at least one term full-time or equivalent) re-training or In-service training, in a different subject of the school curriculum?

Yes ☐ ✓ No ☐ ✓

1.14a If YES, please tick one subject from the following list:

English	☐ ✓	Mathematics	☐ ✓	Computing	☐ ✓		
Physics	☐ ✓	Chemistry	☐ ✓	Biology	☐ ✓	Other Science	☐ ✓
History	☐ ✓	Geography	☐ ✓	Social Science	☐ ✓		
Art	☐ ✓	Music	☐ ✓			Physical Education	☐ ✓
		Modern Language(s)	☐ ✓	Technology	☐ ✓		
		R.E./Theology	☐ ✓	Other	☐ ✓		

SECTION 2: In this Section please tick the answer that most nearly reflects your opinion. Answer for yourself, not for how you think other teachers would answer.

2.1 How far do you consider that the academic background you obtained from your initial degree or certificate is well matched to the requirements of your current teaching? Tick ONE only, please:

- Well matched to all my teaching ☐ ✓
- Well matched to most of my teaching ☐ ✓
- Well matched to no more than half of my teaching ☐ ✓
- Well matched to only a small amount of my teaching ☐ ✓
- Don't know/can't say ☐ ✓

2.2 Schools are expected to teach all the core and foundation subjects of the National Curriculum to pupils up to the age of 16 for a reasonable amount of time. Please tick the name of any foundation subject which you normally spend some time each week teaching to pupils up to the age of 16 (i.e., Years 7–11):

Mathematics	☐ ✓	English	☐ ✓	Welsh	☐ ✓	Science	☐ ✓
Technology	☐ ✓	History	☐ ✓	Geography	☐ ✓	Music	☐ ✓
		Modern Language(s)	☐ ✓	Art	☐ ✓	P.E.	☐ ✓

2.3 Which of the foundation subjects you ticked above in 2.2 do you consider that you have been adequately prepared to teach (to 11 to 16 year-old classes) by the academic background of your initial degree/certificate or by any later re-training/in-service training recorded in Section 1.14a:

Mathematics	☐ ✓	English	☐ ✓	Welsh	☐ ✓	Science	☐ ✓
Technology	☐ ✓	History	☐ ✓	Geography	☐ ✓	Music	☐ ✓
		Modern Language(s)	☐ ✓	Art	☐ ✓	P.E.	☐ ✓

2.4 Are you currently teaching aspects of the National Curriculum to classes in Key Stage 3?

Yes ☐ ✓ No ☐ ✓

If YES, which of the following do you consider the most serious obstacle for you in implementing the National Curriculum and assessment? Tick ONE only please:

- Poor pay ☐ ✓
- Poorly maintained buildings ☐ ✓
- Low level of learning resources, materials or equipment ☐ ✓
- Lack of time ☐ ✓
- Lack of knowledge/information ☐ ✓
- Large class size ☐ ✓

2.5 (For those who teach National Curriculum at Key Stage 3):

If you had had an extra teacher allocated to you for the equivalent of one morning per week for the current year to help you implement the National Curriculum and its assessment, for what purpose would you mainly use her/him? Tick ONE only please:

To help with assessment and recording in your Key Stage 3 classes ☐ ✓
To teach smaller groups in your Key Stage 3 classes more intensively ☐ ✓
To give yourself non-contact time for preparation ☐ ✓
To free you to work alongside your colleagues ☐ ✓
Other (please specify one only below): ☐ ✓

.....

2.6 It has been assumed that, in order to perform their professional duties during the school day (i.e. teaching, supervision, assembly, registration, staff meetings and other 'directed' time), teachers will need to spend an unspecified amount of time preparing for such duties in their own 'non-directed' time. As a general rule, and excluding holidays, how many hours a week do you think it is reasonable for you to be expected to spend in non-directed time (i.e. mainly planning, record-keeping, report writing, organising resources, keeping up-to-date, and all INSET)?

None ☐ ✓ 1–5 hrs. ☐ ✓ 6–10 hrs. ☐ ✓
11–15 hrs. ☐ ✓ 16–20 hrs. ☐ ✓ 21–25 hrs. ☐ ✓
26–30 hrs. ☐ ✓ Over 30 hrs. ☐ ✓

2.7 Do you think that, compared to the same time last year, the overall amount of time (i.e. directed and non-directed time combined) you are spending on work this term has:

Remained about the same ☐ ✓
Increased ☐ ✓
Decreased ☐ ✓
Can't say/don't know? ☐ ✓

2.8 Think of the overall (i.e. in both columns) entry you have made in the Record of Teacher Time concerning the total amount of time spent by you on work in one week. Do you think that the time spent by you in other weeks this term would be:

Rather similar	☐ ✓
Considerably less	☐ ✓
Considerably more	☐ ✓
Can't say/don't know?	☐ ✓

2.9 Think of the overall time you have entered as spent on Inset activities (in Column B only) in the Record of Teacher Time, using the codes IN, IT, ID, IS and IR. For the term as a whole, do you think that the time spent in these Inset activities by you in other weeks this term would be:

Rather similar	☐ ✓
Considerably less	☐ ✓
Considerably more	☐ ✓
Can't say/don't know?	☐ ✓

2.10 Finally, thank you very much for completing this questionnaire, which is, of course, answered anonymously. You will not be able to be identified (either by AMMA or the LEA) as a result of completing it. However, it would help the analysis greatly if the LEA for whom you work could be known. Please use this space to fill in the name of your LEA:

.....

Please return this questionnaire and seven completed sheets in the envelope provided to:

R.J.Campbell (Teacher Time Survey)

Department of Education

University of Warwick

Coventry CV4 7AL

A P P E N D I X I I I

FACTOR ANALYSIS

FACTOR 1 : (THE "MANAGERS" FACTOR)

Questionnaire Variable	Factor 1
Experience	.81346
Age	.66393
Salary status	.63879
Non-contact time	.28770
Fixed term contract	.27126
Re-training	.12243
Time spent teaching main subjects	-.10674
Time on work in other terms	-.14973
No responsibility for other aspects	-.24634
Temporary Allowance	-.33475
Female	-.34515
Time spent teaching alongside coleagues	-.40806

This factor represents the most clear-cut grouping of questionnaire responses; it is dominated by the "managerial" criteria of experience, age and salary status. Salary status was selected as representative of these three for the multiple regression analysis, as the most likely to affect work duties. The less strongly loaded items (eg. Female) also appeared on other factors of the analysis, which represented aspects of working practice such as time spent on joint work. They were therefore included as separate items in the multiple regression analysis.

OVERALL TIME ON WORK
WEIGHTED ACCORDING TO NATIONAL DISTRIBUTION OF INCENTIVE ALLOWANCES

We have drawn attention to the skewed distribution of Incentive Allowances in our sample. The table below (Table IVa) gives the distributions in the AMMA sample and a national sample, derived from Table 12 of the Third Report of the Interim Advisory Committee on School Teachers' Pay and Conditions (CM.973, January 1990, London, HMSO). (Pages 30-31 of the Third Report point out the uncertain base for national comparison, but use the LACSAB September 1989 survey which obtained a 70% LEA response). Table 12 does not include deputy heads, so direct comparison with the proportions in the AMMA sample is not possible. However, if deputies are excluded from the calculation, and the percentage on each scale ajdusted to match the IAC figures, the hours on work overall would be 53.7 hours per week. This is marginally reduced from the unweighted figure, given on Page 16, of 54.4 hours, including deputy heads. Excluding deputies, the unweighted figure is 54.0 hours

Thus, we conclude that the skewed distribution of our sample does not substantially affect the picture of overall hours worked by our teachers. The differential patterning of work, for example between teachers on difference allowances, will not be affected by the skew since differential patterning refers to means within categories of teachers.

Table IVa

	AMMA Sample %	Third Report IAC (Table 12) %
Standard Scale	15	40
'A'	13	10
'B'	20	26
'C'	10	6
'D'	28	15
'E'	6	4
Deputy Heads	8	n.a.

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